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Early fault-tolerant quantum computation in practice

Nobuyuki Yoshioka

University of Tokyo

Abstract

In this talk, we first discuss the current status in quantum computing, including the achievements and limitations of NISQ devices and advancements in quantum error correcting experiments and theory. Then, we proceed to future perspective in practical quantum advantage in condensed matter physics, quantum chemistry, and so on. We further discuss crucial steps to be made in software, middleware layers.